

CLAIMS

1. In a Java computing environment, a method of invoking a native method
5 written in a programming language other than Java, said method comprising:
 providing a reference to one or more Java parameters on a Java
 execution stack, said one or more Java parameters being parameters associated
 with said native method; and
 accessing at least one of said one or more Java parameters based on
10 said reference.
2. A method as recited in claim 1, wherein said reference is provided to a set
of macro instructions.
- 15 3. A method as recited in claim 2, wherein said set of macro instructions and
said native method are written in the same programming language.
4. A method as recited in claim 3, wherein said set of macro instructions and
said native method are written in C programming language.
- 20 5. A method as recited in claim 1, wherein said method further comprises:
 converting said at least one Java parameter to at least one native
 parameter suitable for use by said native method.
- 25 6. A method as recited in claim 5, wherein said converting is performed by a
set of macro instructions.
7. A method as recited in claim 6, wherein said set of macro instructions and
said native method are written in C or C + + programming languages.
- 30 8. A method as recited in claim 6, wherein said method further comprises:

placing said at least one native parameter on a native execution stack;
and
executing said native method using said at least one native parameter.

5 9. A method as recited in claim 1, wherein said at least one Java parameter is a Java reference object or a Java primitive data type.

10 10. In a Java computing environment, a method of invoking a native method written in a native programming language other than Java, said method comprising:

providing a reference to one or more Java parameters on a Java execution stack; said one or more Java parameters being parameters associated with said native method;

15 accessing at least one of said one or more Java parameters based on said reference;

converting said at least one Java parameter to a native parameter suitable for said native programming language; and

wherein said converting is performed by a set of macro instructions written in said native programming language.

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11. A method as recited in claim 10, wherein said native programming language is the C programming language.

25 12. A method as recited in claim 11,

wherein said reference is provided directly to said set of macros; and
wherein said set of macros operate to insulate the native method from the internals of a virtual machine that is invoking said native method.

30 13. A method as recited in claim 10, wherein said method further comprises:
placing said at least one native parameter on a native execution stack;
and

executing said native method using said at least one native parameter.

14. A method as recited in claim 10, wherein said at least one Java parameter is a Java object or a Java primitive data type.

5 15. A Java program, said Java program comprising:

a native method invocation instruction operating to invoke a native method written in a programming language other than Java;

wherein said method invocation instruction operates to provide a reference to an entry on an execution stack, said entry being a reference to at least one parameter associated with said method invocation instruction; and

10 wherein said reference is provided directly to a set of macro instructions.

16. A Java program as recited in claim 15, wherein said set of macro instructions operate to convert said at least one parameter so that it is suitable for use by said native method.

17. A Java program as recited in claim 16, wherein said set of macro instructions are written in the C programming language.

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18. A computer readable media including computer program code for a lightweight native Java method invocation interface operating in a Java computing environment to facilitate invocation of native methods written in a programming language other than Java, wherein the computer program code comprises:

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code for a set of macro instructions; and

wherein a reference to an execution stack is provided to a set of macro instructions, said reference providing a reference to at least one parameter associated with said method invocation instruction which is on said execution stack.

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19. A computer readable media as recited in claim 18, wherein said set of macro instructions operate to convert said at least one parameter so that it is suitable for use by said native method.

- 5 20. A computer readable media as recited in claim 19, wherein said set of macro instructions are written in the C programming language.